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09/801,646	03/09/2001	Tetsuo Saeki	0717-0462P	3943

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[REDACTED] EXAMINER

PATEL, GAUTAM

[REDACTED] ART UNIT

[REDACTED] PAPER NUMBER

2655

DATE MAILED: 05/30/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/801,646

Applicant(s)

Saeki

Examiner
Gautam R. PatelArt Unit
2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on Jun 19, 2001

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-8 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-8 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) The translation of the foreign language provisional application has been received.

15) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____

2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s). 3 6) Other: _____

DETAILED ACTION

1. Claims 1-8 are pending for the examination.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. § 119(a)-(d), which papers have been placed of record in the file.

NOTES/REMARKS

3. Claims and specification uses word "stem" to describe a base or a foundation for the optical components. The Applicants are strongly cautioned against use of words which do not correspond to the convention meaning either in art or generally accepted meaning.

While applicant may be his or her own lexicographer, a term in a claim may not be given a meaning repugnant to the **usual meaning of that term**. See *In re Hill*, 161 F.2d 367, 73 USPQ 482 (CCPA 1947). The term "stem" in claims 1-8 is used by the claim to mean "a base or foundation or bottom of housing" while the accepted or usual meaning is explained in Webster's Dictionary as "ascending axis of a plant, or slender upright support. It seems none of these meanings are applicable to what the Applicants are trying to claim.

Drawings Objection

4. The drawings are objected for following reasons:

Figures 5-7 are not designated by a legend such as "Prior Art". The legend is necessary in order to clarify what applicant's invention is (see MPEP § 608.02g).

Applicant is required to submit a proposed drawing correction in response to this Office Action. Any proposal by the applicant for amendment of the drawings to cure defects must consist of two parts:

- a. A separate letter to the Draftsman in accordance with MPEP § 608.02 (r); and,
- b. A print or pen-and-ink sketch showing changes in *red ink* in accordance with MPEP § 608.02 (v).

IMPORTANT NOTE: the print or pen-and-ink sketch with proposed corrections shown in *red ink* is required in response to this Office Action, and may not be deferred.

Specification

5. The disclosure is objected for following reasons.

The title of the invention is neither precise nor descriptive. A new title is required which should include, using twenty words or fewer, claimed features that differentiate the invention from the Prior Art.

Claim Rejections - 35 U.S.C. § 103

6. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Koki, JPO publication 09-312033 (hereafter Koki) [Applicants admitted prior art] in view of Knight et al., US. patent 6,243,350 (hereafter Knight). NOTE: Since specification already summarizes the Koki patent in pages 1-7, these pages are used to describe the limitations for the convenience of the Applicants.

As to claim 1, Koki discloses the invention as claimed [see Figs. 5-7], including an optical pickup which has a stem [base], a light source, a light detector, and a light separating device comprising:

a stem [fig. 5, unit 500b] [pg. 1, line 12 to pg. 2, line 1];
a light source [fig. 5, unit 101] provided on the stem [pg. 1, line 12 to pg. 2, line 1];

a light detector [fig. 5, unit 106] provided on the stem for detecting light emitted by the light source which is reflected by an optical recording medium [pg. 1, line 12 to pg. 2, line 1]; and

a light separating device [fig. 5, unit 105] , divided into at least a first area and a second area, for separating the light incident on each of the first area and the second area into a plurality of light components and directing each of the light components in a prescribed direction [pg. 2-4],

wherein the light detector includes a light receiver, divided into a first light receiving region [fig. 7, 106a] and a second light receiving region [fig. 7, 106b], for receiving the light components directed by the first area of the light separating device, the first light receiving region and the second light receiving region are located so that a first direction is substantially perpendicular to a second direction, where the first direction is a direction of a phantom straight line connecting a light emitting point of the light source and a focal point on

the light detector of the light transmitted through the light separating device, and the second direction is a direction of a dividing line for dividing the light receiver into the first light receiving region and the second light receiving region [pg. 2-4];

Koki discloses all of the above elements including a base [stem] for putting all components next to each other. Koki does not specifically discloses type of the base material or related characteristics of that material i.e. temp coefficient of expansion and/or contraction of the base or other mounted components.

However, it is well known in the art that all system components are susceptible to temperature changes and there are two types of thermal compensation schemes, such as active and passive. Both are well known in the art. Also Knight clearly discloses:

a material of the stem and a wavelength of the light from the light source are selected so that a distance of movement of the focal point on the light detector in a direction perpendicular to the second direction is within a prescribed tolerance limit, the movement being caused by a change in the wavelength of the light emitted by the light source and expansion or contraction of the stem, which are both caused by a temperature change of the optical pickup apparatus [col. 22, line 54 to col. 23, line 33 and fig. 20A and 20B]. Both Koki and Knight are interested in improving the quality of signals in an optical disk device. Both Koki and Knight show light source objective lens, motor and plural related optical elements.

One of ordinary skill in the art at the time of invention would have realized that the system components of Koki system would have been sensitive to temperature and even though Koki has an active temperature compensation scheme it would be advantageous to provide an extra passive compensation

scheme or replace active scheme with passive scheme to improve the quality of signals and reduce some components. Therefore, it would have been obvious to have used a passive thermal compensation scheme in the system of Koki as taught by Knight because one would be motivated to reduce thermal noise and related errors and provide better signal controls and improve quality of the signals [col. 22, line 32-53; Knight].

8. As to claim 2, Koki discloses:

a stem [fig. 5, unit 500b] [pg. 1, line 12 to pg. 2, line 1];

a light source [fig. 5, unit 101] provided on the stem [pg. 1, line 12 to pg. 2, line 1];

a light detector [fig. 5, unit 106] provided on the stem for detecting light emitted by the light source which is reflected by an optical recording medium [pg. 1, line 12 to pg. 2, line 1]; and

a light separating device [fig. 5, unit 105], divided into at least a first area and a second area, for separating the light incident on each of the first area and the second area into a plurality of light components and directing each of the light components in a prescribed direction [pg. 2-4],

wherein the light detector includes a light receiver, divided into a first light receiving region [fig. 7, 106a] and a second light receiving region [fig. 7, 106b], for receiving the light components directed by the first area of the light separating device, the first light receiving region and the second light receiving region are located so that a first direction is substantially perpendicular to a second direction, where the first direction is a direction of a phantom straight line connecting a light emitting point of the light source and a focal point on the light detector of the light transmitted through the light separating device, and the second direction is a direction of a dividing line for dividing the light

receiver into the first light receiving region and the second light receiving region [pg. 2-4];

Koki discloses all of the above elements including a base [stem] for putting all components next to each other. Koki does not specifically discloses type of the base material or related characteristics of that material i.e. temp coefficient of expansion and/or contraction of the base or other mounted components.

However, it is well known in the art that all system components are susceptible to temperature changes and there are two types of thermal compensation schemes, such as active and passive. Both are well known in the art. Also Knight clearly discloses:

a material of the stem and a wavelength of the light from the light source are selected so that a distance of movement of the focal point on the light detector in a direction perpendicular to the second direction is within a prescribed tolerance limit, the movement being caused by a change in the wavelength of the light emitted by the light source and expansion or contraction of the stem, which are both caused by a temperature change of the optical pickup apparatus [col. 22, line 54 to col. 23, line 33 and fig. 20A and 20B]. Both Koki and Knight are interested in improving the quality of signals in an optical disk device. Both Koki and Knight show light source objective lens, motor and plural related optical elements.

One of ordinary skill in the art at the time of invention would have realized that the system components of Koki system would have been sensitive to temperature and even though Koki has an active temperature compensation scheme it would be advantageous to provide an extra passive compensation scheme or replace active scheme with passive scheme to improve the quality of signals and reduce some components. Therefore, it would have been obvious to

have used a passive thermal compensation scheme in the system of Koki as taught by Knight because one would be motivated to reduce thermal noise and related errors and provide better signal controls and improve quality of the signals [col. 22, line 32-53; Knight].

9. As to claim 3, Koki discloses:

a beam splitter [fig. 5, unit 102] for separating a part of the light reflected by the optical recording medium and directing the separated part to the light detector [pg. 1, line 12 to pg. 2, line 1],

Combination of Koki & Knight discloses all of the above elements including a base plate [stem], lens mount base and lens cells and that compensation takes into account change of the wavelength [col. 22, lines 5467; Knight]. Combination of Koki & Knight does not specifically disclose that the beam splitter is also part of the thermal compensation scheme when wavelength changes to the extent claimed.

However, it is well known in the art that all modern system are placing more and more components on the same base or are integrating them as close as possible for space saving. It would be evident to one of ordinary skill in the art that these components will also be susceptible to temperature changes and some form of temperature compensation will be necessary for them.

Therefore, it would have been obvious to have used a passive thermal compensation scheme on the beam splitter which is located on the same base in the system of Koki because one would be motivated to reduce thermal noise and related errors and provide better signal controls and improve quality of the signals for the beam splitter in wake of changes in the wavelength also.

10. As to claim 4, it is rejected for the similar reasons set forth in the rejection of claim 3, supra.
11. As to claim 5, Koki discloses:
the light separating device is divided into at least the first area and the second area by a dividing line which is substantially perpendicular to a tracking direction of the optical recording medium [pg. 2-4].
12. As to claim 6, it is rejected for the similar reasons set forth in the rejection of claim 5, supra.
13. As to claim 7, Koki discloses:
the light receiver is divided into at least the first light receiving region and the second light receiving region by the dividing line which is substantially parallel to a dividing line for dividing the light separating device into at least the first area and the second area [pg. 2-4].
14. As to claim 8, it is rejected for the similar reasons set forth in the rejection of claim 5, supra.

Other prior art cited

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
 - a. Courtney et al. (US. patent 4,871,226) "Mounting of optical fibers to integrated optical chips".

b. Knight et al. (US. patent 6,449,221) "Storage media for optical storage systems".

Contact information

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is (703) 308-7940. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To can be reached on (703) 305-4827.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-4700 or the group Customer Service section whose telephone number is (703) 306-0377.



Gautam R. Patel
Patent Examiner
Group Art Unit 2655

May 29, 2003